Capabilities Based Planning: An AT&L Perspective on FCB Interactions

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Overview

- Capabilities-Based Planning (CPB)
  - New Joint Capability Areas
  - Notional Mapping to Current Capability Areas
  - DoD End-to-End Process (old and new)
- Force Application Activities under CPB
- AT&L Perspective

Capabilities Based Planning (CBP) Objectives

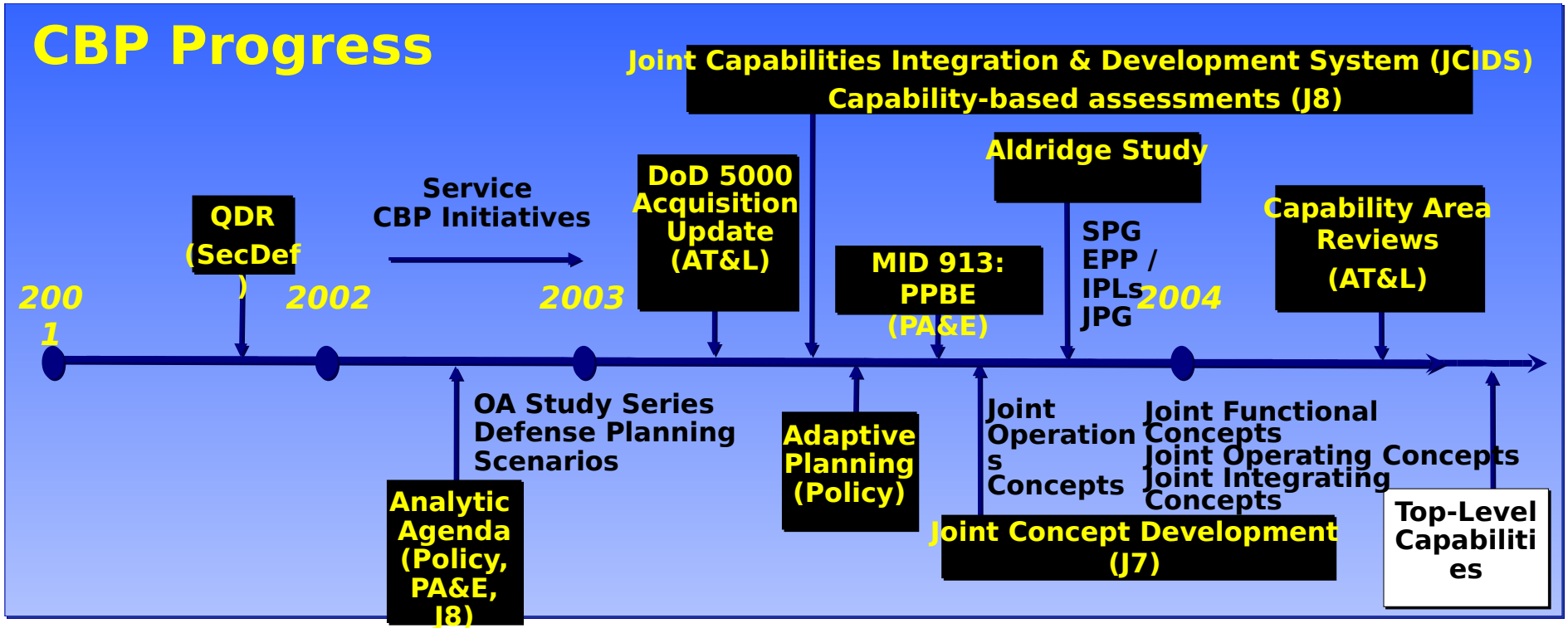
CBP should be a top-down, competitive approach to weigh options vs. resource constraints across a spectrum of challenges

CBP should:

- Link DoD decision-making to the Defense Strategy
  - *Encompass the full set of DoD challenges*
- Inform risk tradespace -- identify joint capability gaps, redundancies and opportunities
  - *Generate common framework for capability trades*
  - *Couple programmatic capability development to operational needs*
- Facilitate the development of affordable capability portfolios

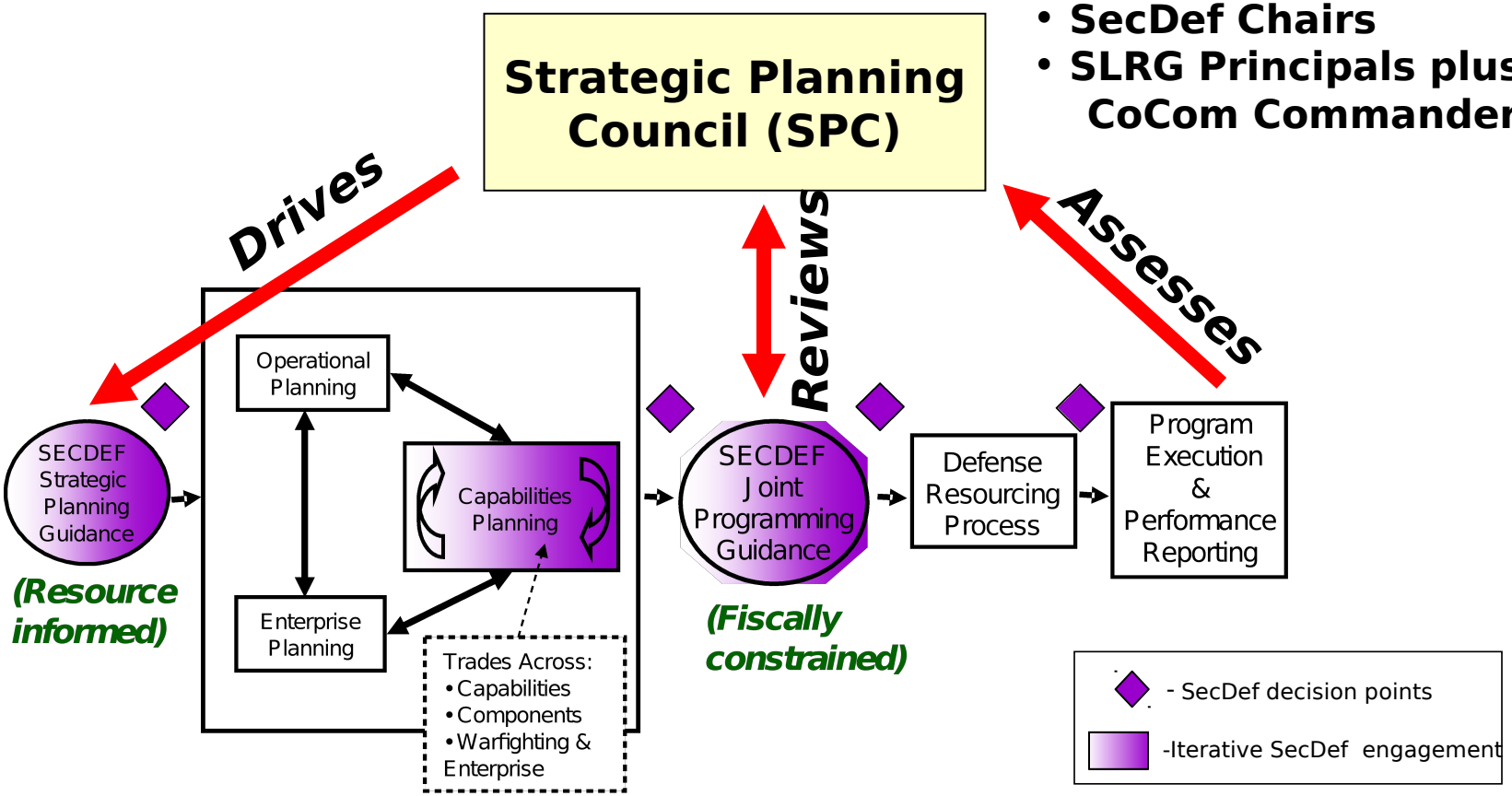
New Capabilities-Based Processes

- PPBS, the last major change in DoD resource management (1960s), was based on a decade of prior analytical development



CBP Top-Down Process

- SecDef Chairs
- SLRG Principals plus CoCom Commanders

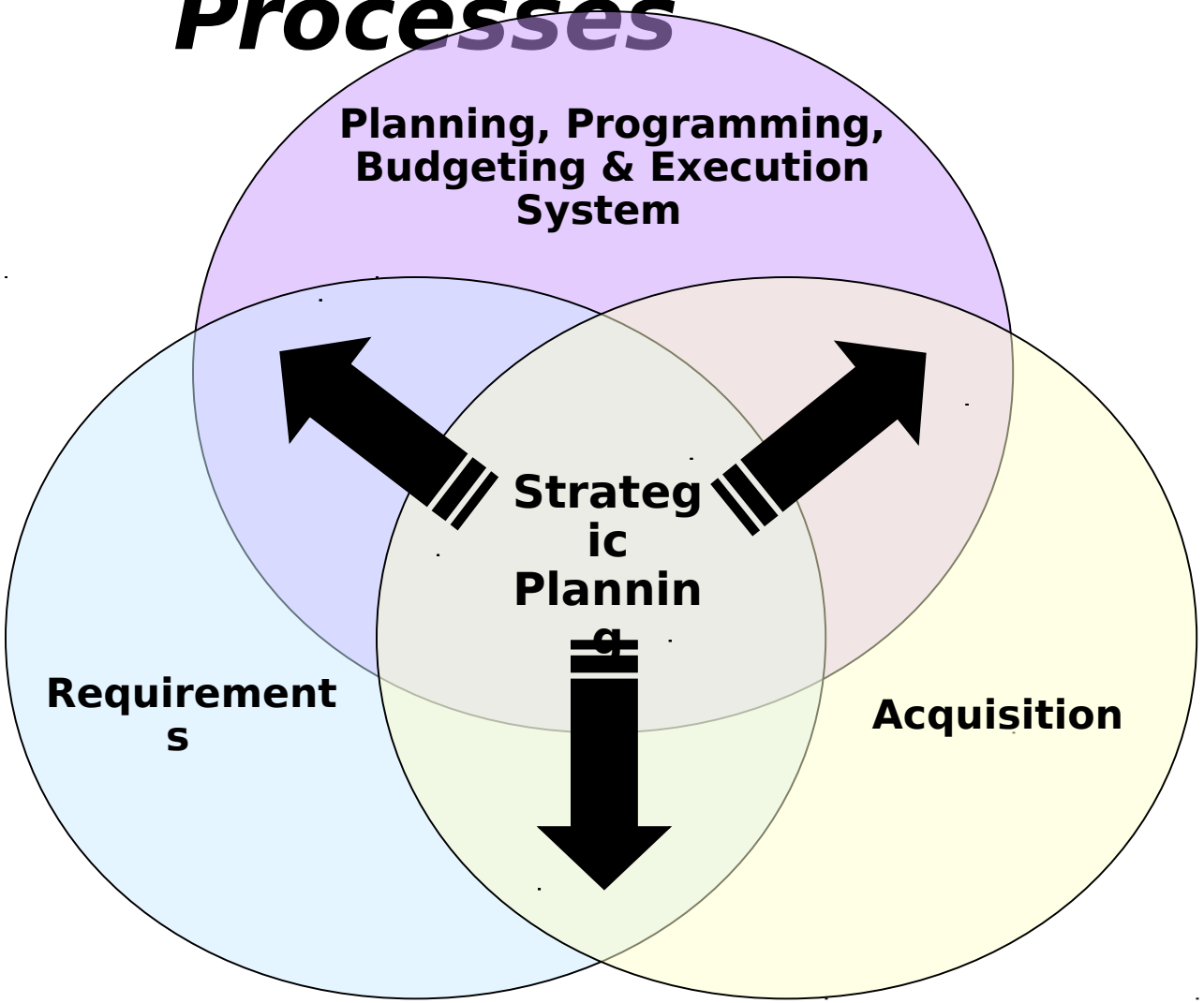


Time Goal: Dec Jan Apr May Oct Nov

Overall Defense Capabilities Process:

- ***Senior Leadership Upfront***
- ***Department-Level View of What's Needed***
- ***Linking Strategy to Planning to Programming***

CBP Integrates Across Processes



CBP integrates major DoD processes to facilitate strategic planning

CBP is enabled through a common set of joint capability definitions

DJCS(J-8) CBP Process

Defense Planning Scenarios

DoD Planning Construct and Stretch Goals

Irregular	Catastrophic
Traditional	Disruptive

OSD Policy Strategy

DJCS (J-8)
Macro

Warfighting Capabilities and Corresponding Force Structure

Operational Availability Assessments

JCIDS
For materiel and Non-materiel solutions

Functional Capability Boards
Micro

Joint Integrating Concepts

Capabilities Based Assessments

Capabilities Gaps and Overlaps

Proposed Definition Set: Joint Capability Areas (Tier 1)

- Battlespace Awareness
- Command and Control
- Network Operations
- Interagency Coordination
- Public Affairs Operations
- Information Operations
- Protection
- Logistics
- Force Generation
- Force Management
- Homeland Defense
- Strategic Deterrence
- Shaping & Security Cooperation
- Stability Operations
- Civil Support
- Non-Traditional Operations
- Access & Access Denial Operations
- Land Control Operations
- Maritime/Littoral Control Operations

Air Control Operations

Developing a common lexicon

Notional Mapping of Joint Capability Areas to Current Joint Operating Concepts

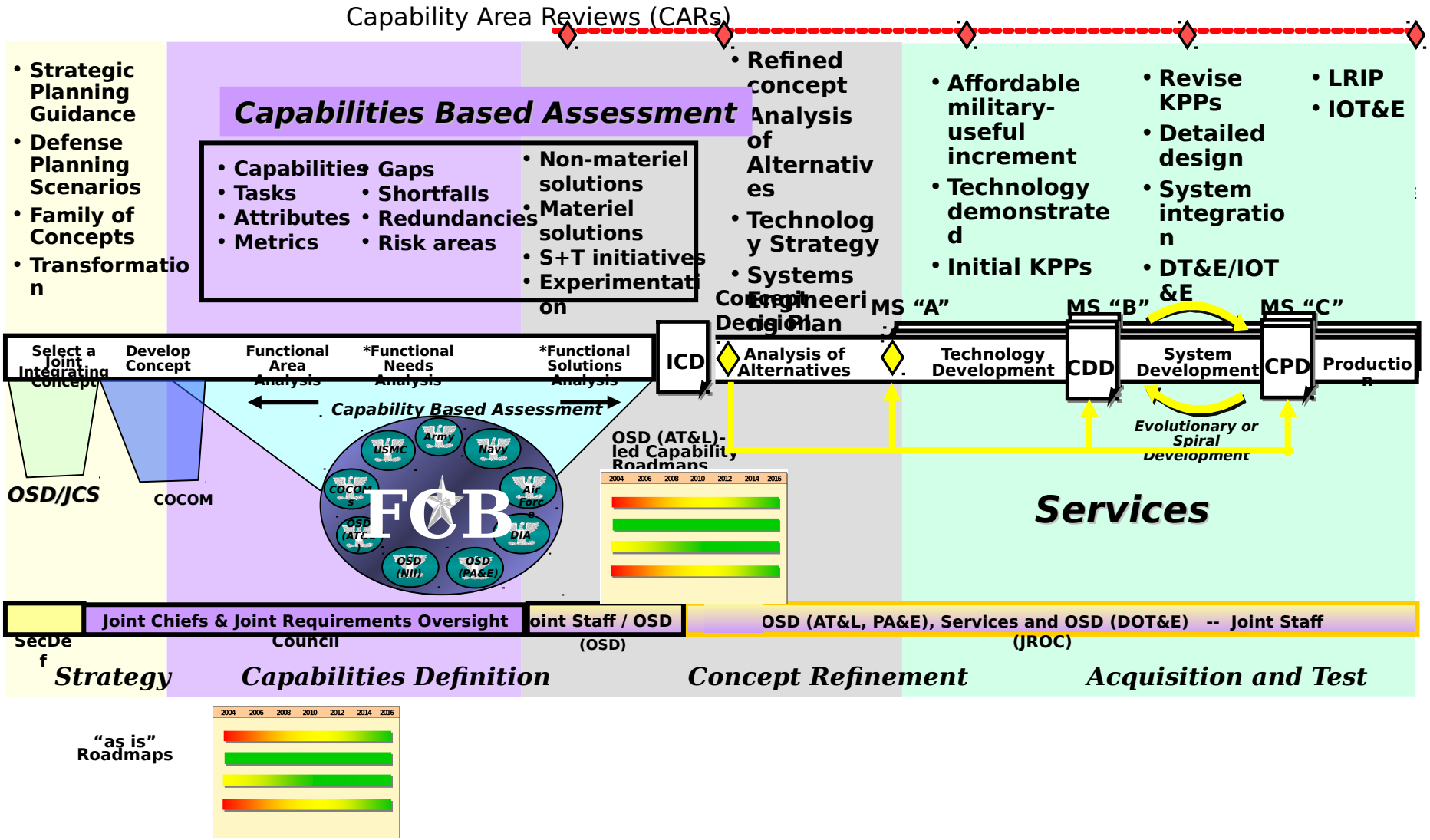
Homeland Security
Homeland Defense
Civil Support

Strategic Deterrence
Strategic Deterrence
Shaping & Security Cooperation

Stability Operations
Stability Operations

Major Combat Operations
Access & Access Denial Operations
Space Control Operations
Air Control Operations
Maritime/Littoral Control Operations
Land Control Operations
Non-Traditional Operations
Information Operations
Stability Operations

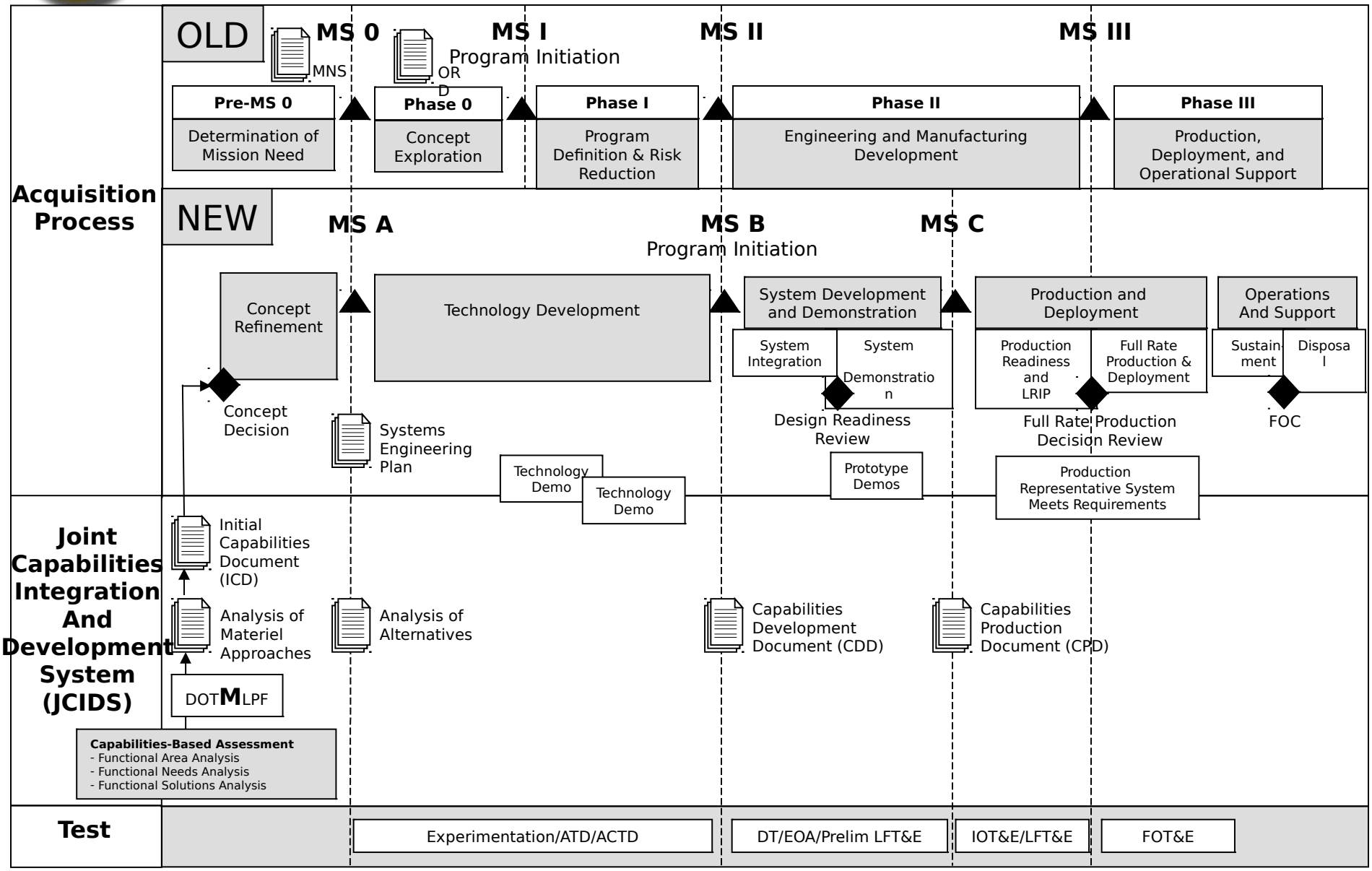
DoD End-to-End CBP Process



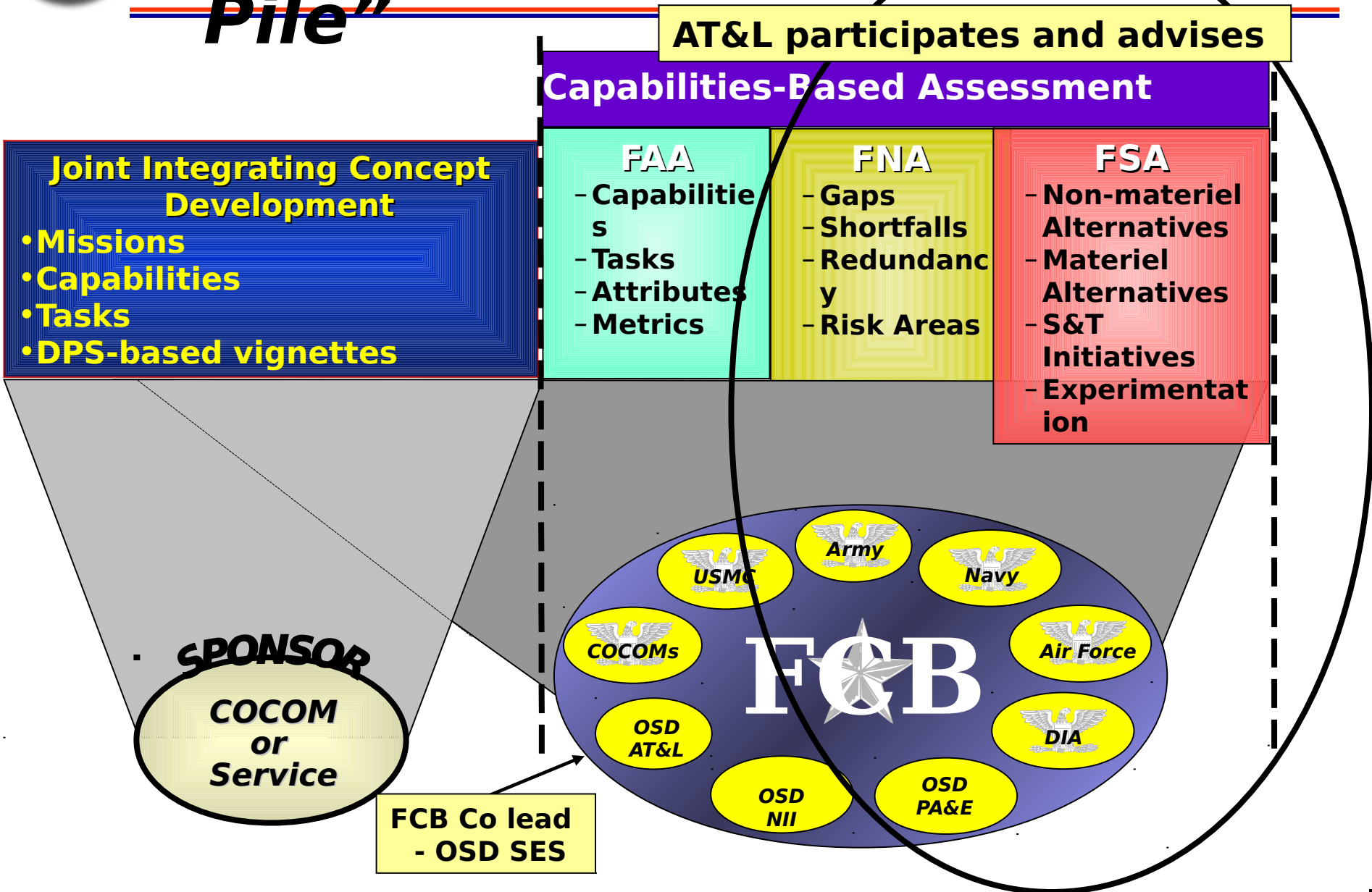
Capabilities-Based Planning: Perspective from AT&L

- Acquisition has traditionally focused at the program level
- Under CBP, acquisition will widen its perspective
  - Infuse technology and programmatic reality into planning and decisions
  - Shape, engineer, and validate solutions to capability needs
  - Make decisions on systems within a capabilities context (systems perspective)
  - Engineer the relationships across the set of systems that together satisfy the need (systems of systems)
  - Synchronize the interaction among programs to satisfy multiple capabilities (roadmaps)
  - Provide a coherent logistics transformation strategy supporting distributed, adaptive operations

Process Overlays



The FCBs --"Hot, Sweaty Pile"



Current ATL (DS/SMI/JFA) FCB Activities

- JCIDS Capabilities Based Assessments
  - Joint Undersea Superiority
  - Joint Forcible Entry Operations
  - Global Strike
  - Integrated Air and Missile Defense
- AT&L-led Capability Area Reviews and Roadmaps
  - Previous: Integrated Air and Missile Defense; Conventional Engagement Capability (Land Attack Weapons)
  - Future: Electronic Warfare; JBMC2
- Studies
  - Medium Range Bomber/Long Range Strike; Emerging Technologies for TACAIR; Aviation Capabilities; Cross-Capability Assessment and Risk Management Framework for Evaluating Major DoD Force Capability Options

Other Activities

- Study of JCIDS/5000 Transition
  - Examining the transition (“lead change”) from requirements to acquisition; key point of intersection is the FSA through AoA.
  - Highlight success criteria, roles and responsibilities for critical decision points
- Study of Capability Area Reviews
  - Examining the structure and content of CARs
  - Identify key focus areas, process requirements, and analysis requirements
- DAB-level System “In context” Reviews
  - Expands the scope of individual program DAB reviews to include critical interrelationships between supported and supporting programs and systems within the capability / mission area
    - *Example on next slide*

Example: JSF Interrelationships with Complementary Systems

Supporting Platforms:
- C-17A
- KC-10/135
- Future Tanker
- KC-130J

Hosting Platforms:
- CVN-21
- CVN-68
- LHA
- LHA (R)
- LHD

Replacing:
- F-16
- A-10
- AV-8B
- F/A-18C/D

C4:
- JTRS
- MIDS(Link-16)
- JMPS
- GATM
- JPALS
- VMF

Complementary Platforms:
- F/A-22
- F/A-18E/F

ISR:
- JSTARS
- E-2C
- AWACS
- Rivet Joint
- EP-3/ACS
- IBS
- GPS
- E-10

Weapons:
- AIM-120
- JDAM
- JSOW

Other:
- Crew Protection Modeling & Simulation

Cost, Schedule, Performance & Integration Support Fielding

Cost, Schedule, Performance or Integration Issues

Cost, Schedule, Performance or Integration issues to be resolved

SOLID DENOTES CURRENT SYSTEM
DASH DENOTES FUTURE SYSTEM

OSD MDAP DAES Rating, (MDAP) OR SERVICE ASSESSMENT (ACAT 2/3)

Sched Perf Not Rated Cost

Current Issue: Family-of-Systems System Engineering

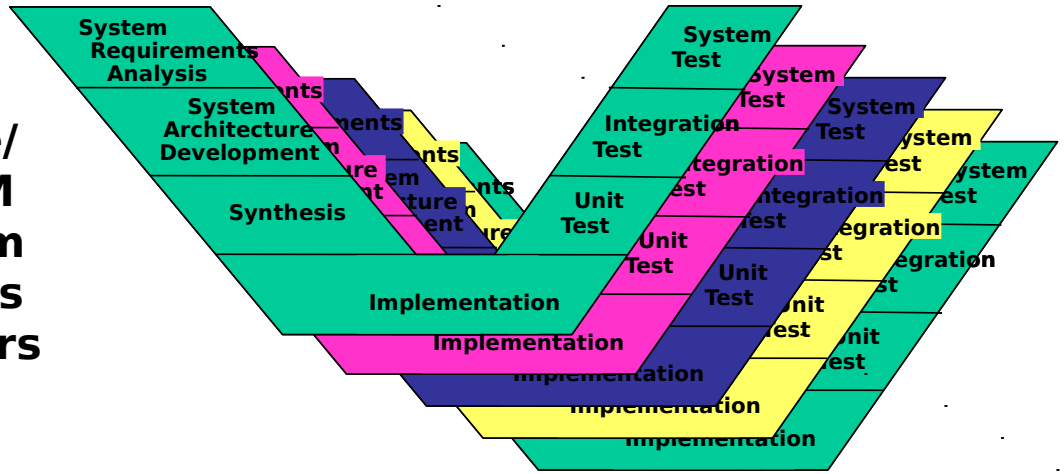
- Problem Statement (IAMD CAR DAB):
  - Certain capabilities only appear in a Family of Systems context.
  - How do these FOS capabilities get engineered within the various individual systems
  - How do these FOS capabilities get tested
- Example
  - Capabilities such as Combat Identification must be implemented in numerous systems across all Services and Agencies to enable the joint warfighter to use that capability in combat

SE at a Capability Level*

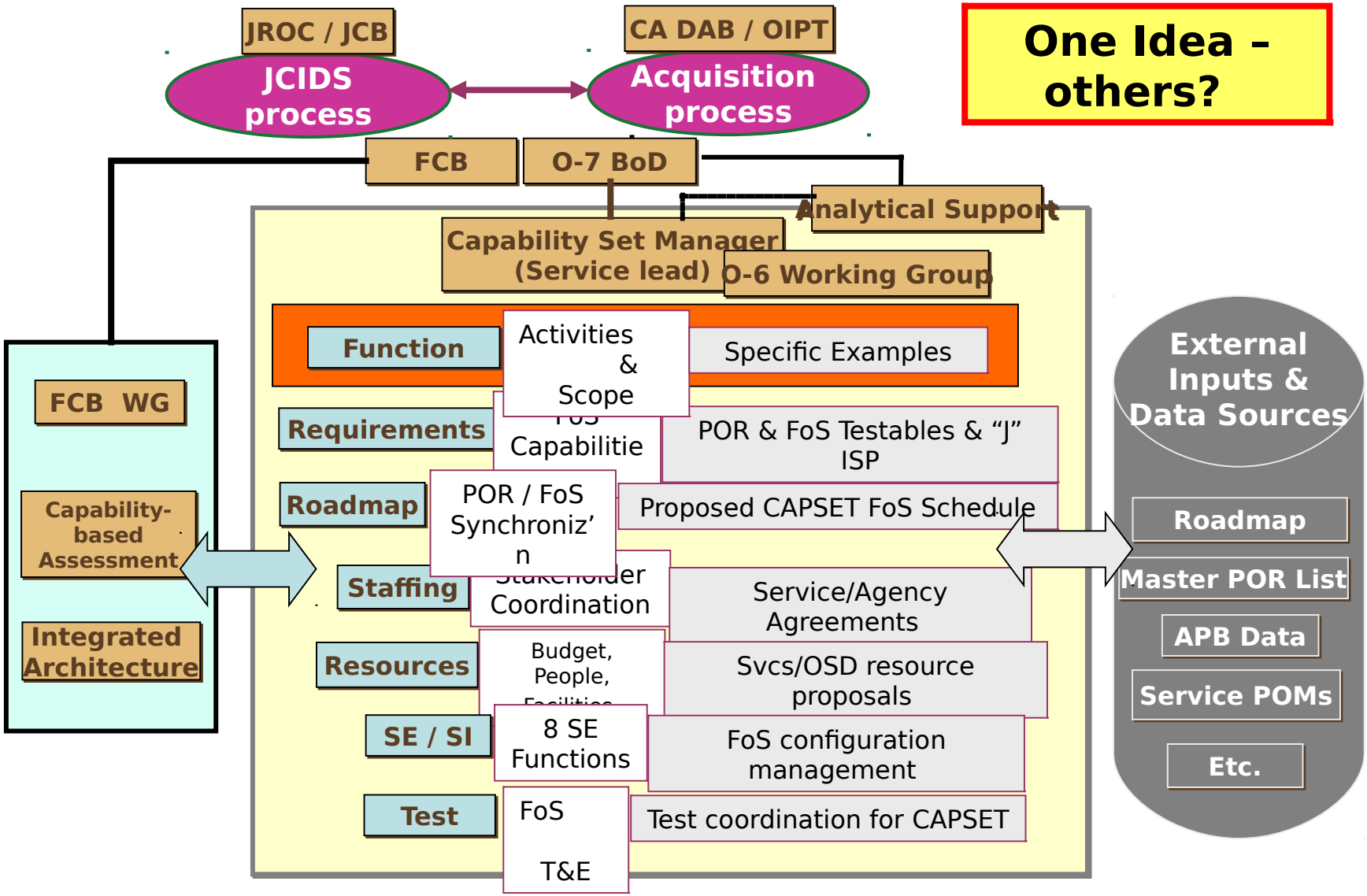
How do we do this?

Capability Area Manager and Lead Capability Systems Engineer?

Service/ PEO/PM Program Systems Engineers

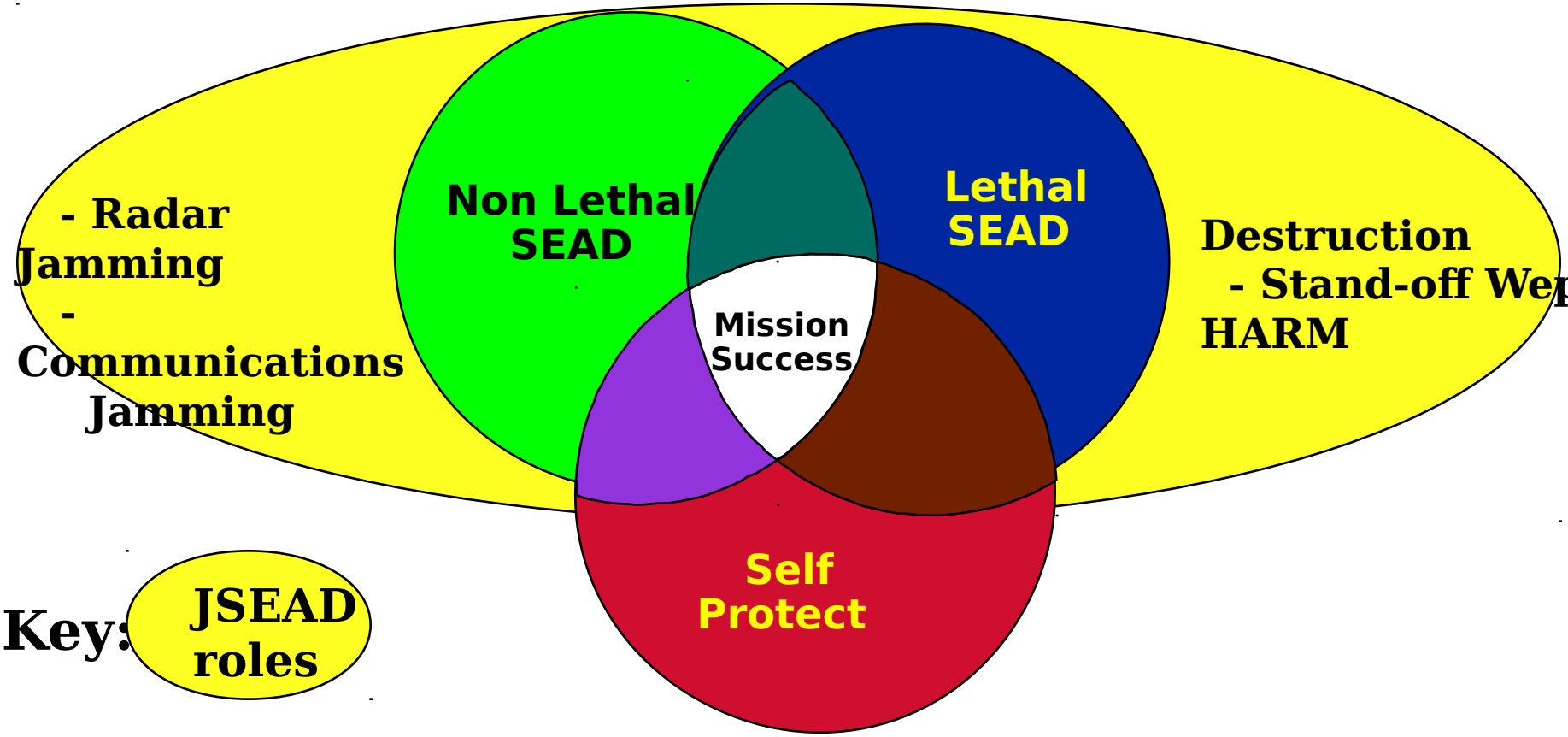


Building a FOS Capability – One View



Example: Capabilities Based Acquisition Applied to JSEAD

JSEAD and Aircraft Survivability



Deny, Delay Radar Acquisition/Tracking/Lock-On
- **Radar Cross Section design**
- **On Board Radio Frequency/Infrared Countermeasures**
- **Off Board Countermeasures**
  - **Towed Decoys/Chaff/Flares**

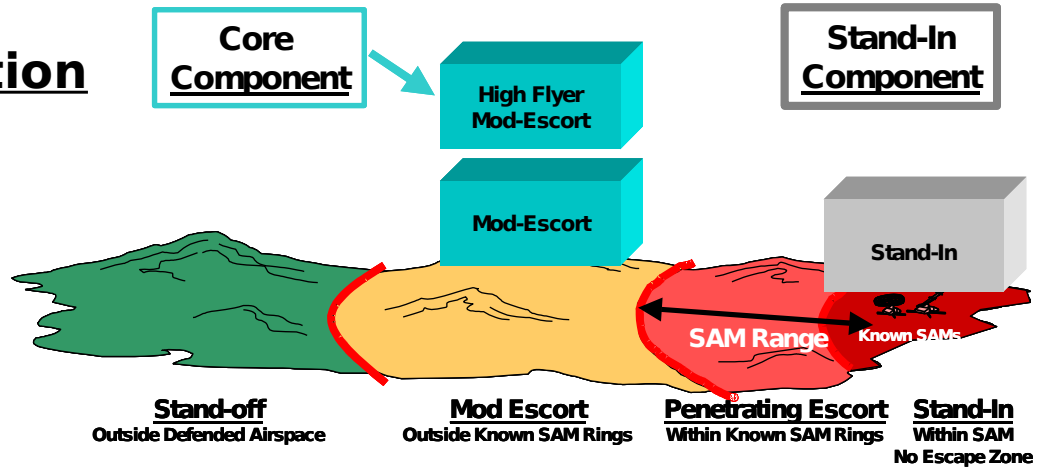
SEAD capability interacts with Self Protection -

Service Response to AEA AoA: AEA System of Systems Concept

AEA AoA Recommendation

Complete Capability

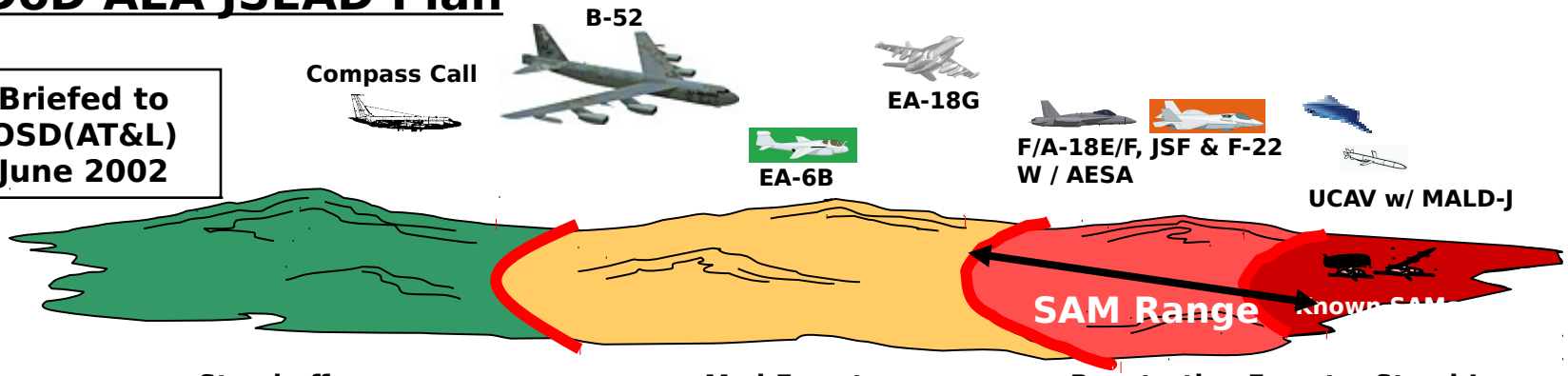
Sensing capability to support reactive jamming
Full frequency coverage
Specialized high power jamming*
Stand-in jamming



*AESA Radars, Advanced Waveforms, and High Power New Technology AEA Arrays collectively can provide Specialized High Power Jamming Capabilities.

DoD AEA JSEAD Plan

Briefed to OSD(AT&L) June 2002



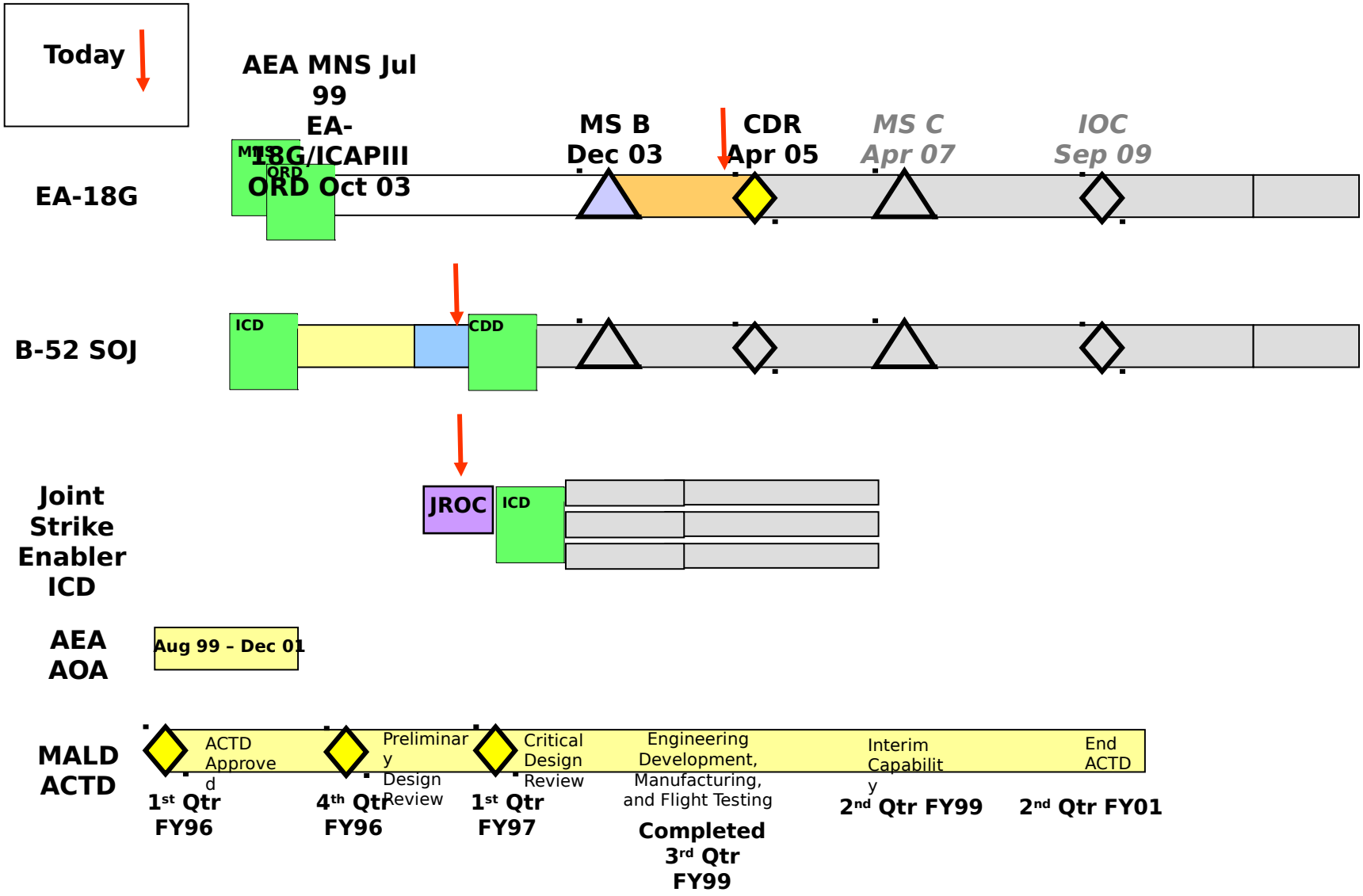
Stand-off
Outside
Defended Airspace

Mod-Escort
Inside
Defended Airspace

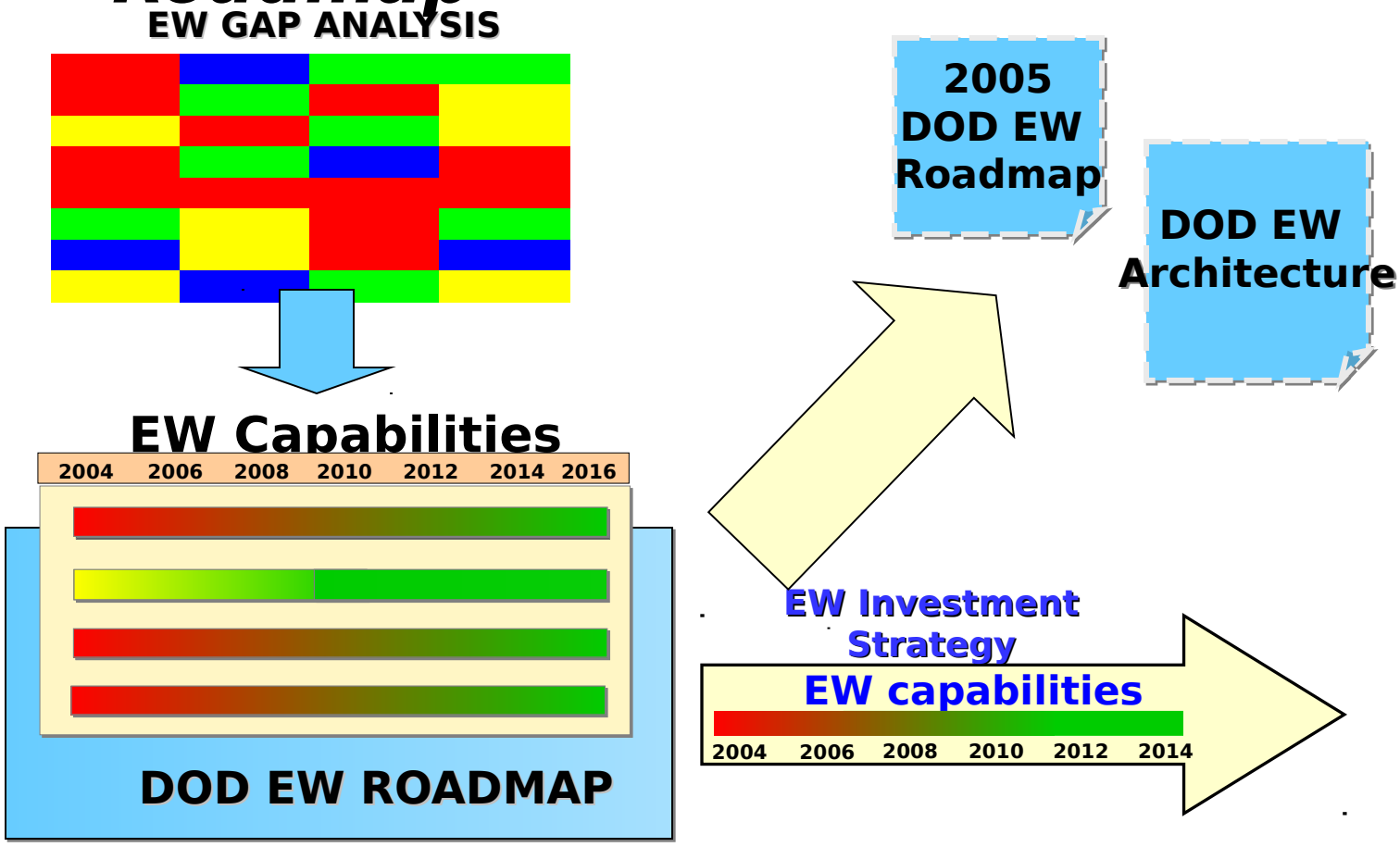
Penetrating Escort
Inside
Kinematic Range
of Known SAMs

Stand-In
Inside
No Escape Range
of Known SAMs

Where Are They Now…Sample AEA/SEAD Programs



Electronic Warfare (EW) Capabilities Analyses and EW Roadmap



Objectives: Document a Joint EW Vision; Develop an EW Roadmap and Investment Strategy

Requirements-to-Acquisition: Some AT&L Observations

- Capabilities-Based Assessments help *inform* decision makers – not a decision-making tool in and of themselves
  - Still rely on Services to identify and attempt to resolve shortfalls
- JCIDS is still evolving - potential to impact acquisition
  - Joint Capability Areas, Streamlining JCIDS are latest initiatives
  - Sufficient data/analysis to support decisions?
- Process is still oriented towards Service-developed ICDs
  - Services are *beginning* to develop "joint" ICDs together (e.g., JSE)
- Need for process flexibility is recognized
  - Program migration from old to new acquisition framework (e.g., MNS/ORDs to ICDs/CDDs, MS I to MS A)
  - Application of single-program criteria to Family-of-Systems programs (e.g., Future Combat System)

Requirements-to-Acquisition: Some AT&L Observations

- Early involvement of AT&L is a plus
  - Allows for greatest leverage in preventing mistakes / misconceptions and understanding Service objectives
  - Engaging with subject matter experts (e.g., acquisition policy) can do a lot to avoid unnecessary delays
  - PA&E is our most useful partner in this phase
- NII is an increasingly important ally as programs attempt to translate the Net Ready KPP into an actual capability

Questions?